

CONTENTS

Editorial

DIFFERENT WAYS OF DESCRIBING
EXPECTED STUDENT LEARNING OUTCOMES IN SCIENCE
Jari Lavonen 4

Articles

QUESTIONING AS A MEDIATION TOOL FOR
COGNITIVE DEVELOPMENT IN EARLY SCIENCE TEACHING
Vlasta Hus, Metka Kordigel Aberšek 6

THE PREDICTORS OF PRE-SERVICE ELEMENTARY TEACHERS’
ANXIETY ABOUT TEACHING SCIENCE
Nejla Yürük 17

EXPLOITING LANGUAGE IN TEACHING OF ENTROPY
Fredrik Jeppsson, Jesper Haglund, Helge Strömdahl 27

PATHWAYS OF STUDENTS’ CONCEPTUALISATION
DURING A PROBLEM SOLVING TASK: LESSONS FOR TEACHING PHYSICS
Bernardino Lopes 36

EMOTIONS EXPRESSED TOWARD GENETICALLY MODIFIED ORGANISMS
AMONG SECONDARY SCHOOL STUDENTS AND PRE-SERVICE TEACHERS
Andrej Šorgo, Jana Ambrožič Dolinšek, Iztok Tomažič, Franc Janžekovič 53

Information

INFORMATION FOR CONTRIBUTORS 65

INFORMATION & COMMUNICATION TECHNOLOGY
IN NATURAL SCIENCE EDUCATION – 2011 66

PROBLEMS OF MANAGEMENT IN THE 21ST CENTURY 67